

# Research on the Impact of Intellectual Property Protection on Industrial Structure Upgrading

Fei Miao<sup>1,\*</sup>

<sup>1</sup>City Institute, Dalian University of Technology, Dalian, China

\*Corresponding author

**Abstract:** As China's economy develops rapidly and places increasing emphasis on science and technology innovation policies, intellectual property protection plays a crucial role in the modern economy. Originating from innovation activities, intellectual property can significantly promote the upgrading of industrial structure and enhance economic competitiveness. Around the world, a series of policies and regulations on intellectual property protection have been introduced, establishing a solid foundation for promoting innovation and encouraging investment. This also provides sufficient basis for the protection and management of intellectual property rights. However, how to properly address the relationship between intellectual property protection and industrial structure upgrading is a topic of great concern. This paper will explore the development paths of intellectual property and industrial structure from this perspective.

**Keywords:** Intellectual Property; Property Protection; Industrial Structure Upgrading; Economic Development

## 1. Introduction

Researchers agree that the relationship between intellectual property protection and the upgrading of industrial structure is a complex research topic, involving how to formulate reasonable government policies, balance the development of different industries, and enhance the innovation capability of researchers. This paper aims to provide a systematic study, explaining the concept of intellectual property protection and the current state of industrial structure theoretically, exploring the differential impacts of intellectual property protection on various types of industries based on practical experience, investigating how intellectual property protection affects the upgrading of industrial structure, and offering relevant policy recommendations to provide reference for the optimization and upgrading of China's industrial structure.

## 2. The Concept and Content of Intellectual Property Protection

Intellectual property aims to provide appropriate legal protection for knowledge-based products created by scientists and technologists. The law grants them rights to protect their intellectual achievements, thereby encouraging researchers to innovate and protect investment in innovation, fundamentally driving economic development. Generally, intellectual property includes the following types: First, patents grant inventors the exclusive right to use their invention, protecting new, useful, and highly creative products, methods, machines, etc., for a certain period. Second, trademarks help people identify and distinguish the source of goods, covering the right to use marks that could be graphical, textual, or even sounds and colors, to differentiate products or services from competitors and enhance competitiveness. Third, copyright protects the rights to use literary, artistic, and scholarly works, which typically contain original thoughts and expressions, showcasing unique ideas and theories. The protection targets include books, music, films, software, art, etc. Additionally, industrial design rights protect the appearance or design of industrial products, such as shape, texture, color, etc. Lastly, trade secret rights protect confidential and commercially valuable business information, like customer lists, manufacturing methods, business plans, etc., requiring reasonable confidentiality measures by those who hold them[1].

These four intellectual property rights are core elements of the knowledge economy, significantly driving innovation-led economic development and industrial upgrading. Meanwhile, protecting intellectual property ensures that innovators and rights holders are not infringed upon, attracting more investment, and promoting the optimization and upgrading of the industrial structure.

### **3. Industrial Structure Upgrading**

#### **3.1. Concept Definition**

Since entering the 21st century, many countries have placed greater emphasis on industrial structure transformation and upgrading. This requires continuous optimization and transformation of production factors, technology levels, product structures, and industrial layouts within countries, regions, or industries to keep pace with the development of the times and upgrade and optimize the economic structure.

Technological progress and deepening innovation policies can effectively assist in the upgrading of industrial structure. Introducing emerging technologies into industries can improve production methods, optimize the allocation of production factors, and upgrade product structures, facilitating a shift from the original heavy industry structure to a technology-intensive, knowledge-intensive, and high-value-added model. As the pace of industrial structure upgrading in China steadily advances, resource allocation within various industries becomes more efficient and rationalized. The configuration of production factors, such as labor, capital, and technology, becomes more adaptable across different industries, significantly improving resource utilization efficiency and contributing to China's sustainable economic development[2].

It should be noted that upgrading the industrial structure always involves adjusting industrial organization forms. In this process, emerging production models gradually replace traditional methods and organizational forms, and cross-border cooperation emerges, leading to more flexible industrial ecosystems across various industries. Industrial structure upgrading also lays the foundation for optimizing product structures. China's industrial structure is becoming increasingly diversified, greatly enhancing product quality and brand effects, meeting consumers' intrinsic needs. As competition intensifies in China's macro environment, the market sees more drivers promoting economic growth and industrial development. Lastly, this helps industries achieve more open and competitive development paths, better adapting to the international market. Through essential technological innovation and brand building, many Chinese enterprises gradually take the global stage, emitting a competitive shine, significantly stimulating international trade and increasing cross-border investments. Industrial structure upgrading is a dynamic, complex system engineering involving the interaction and impact of technology, market, policy, and other factors. Through industrial structure upgrading, a country or region's economic structure can be optimized and upgraded, achieving sustained economic growth and sustainable development goals.

#### **3.2. Current Status and Trends**

Today, as a complex issue, understanding the future direction of industrial structure upgrading requires special consideration of the specific circumstances of different countries, regions, and industries. With continuous technological development, innovations in various advanced technologies and successful digital transformation are driving the modernization of industrial structures. Currently popular technologies such as artificial intelligence, big data, and the Internet of Things are changing the traditional modes of production in industries, guiding them towards intelligent and digital new directions. In this process, more and more companies are focusing on using technology to improve production efficiency and service quality, ultimately enhancing competitiveness. At the same time, as people's environmental awareness has increased and the impact of climate change in the global climate system has become more severe, most industries focus more on how to move towards an environmentally friendly and sustainable development path during their structural upgrading. Consequently, most countries and regions are actively reducing resource and energy consumption, strictly controlling pollution emissions, promoting the development of a green economy, creating low-carbon industries, and developing new clean energy industries, environmental technology industries, and circular economy models by reducing resource consumption and emissions[3-4].

Furthermore, as the level of economic development improves, the living standards of the population also continuously improve. The proportion of the service sector in our country's overall industrial structure is increasing, and the rise of this type of economic system is an important trend for future transformation and upgrading. The transformation of manufacturing into service-oriented industries such as finance, education, medical care, cultural entertainment, etc., injects new momentum into economic growth. Additionally, during the process of industrial structure upgrading, there is a trend of integration between different industries and with the internet, creating new industrial ecosystems through the

continuous integration of traditional industries and internet technology. Concepts like the industrial internet, smart manufacturing, and smart cities are gradually becoming important directions for the future upgrading of industrial structures. A significant trend in today's industrial structure upgrading is globalization, where the rapidly developing process of integration in the global market and the rise of multinational companies are greatly helping to continuously reconstruct and optimize industrial and value chains. Our country has increased the number of multinational companies and introduced a large amount of cross-border investment, further accelerating the flow of technology and capital, and pushing the industrial structure towards a more international and specialized development path.

Therefore, it is evident that the current upgrading of our country's industrial structure presents a trend towards diversification and complexity. Although there are differences in the development status of different regions and industries, overall, the current industrial structure upgrading is moving towards a development path driven by technology, green and sustainable development, service-oriented economy, cross-sector integration, and globalization[5].

#### **4. The Interrelation between Intellectual Property Protection and Industrial Structure Upgrading**

There is a close relationship between intellectual property protection and industrial structure upgrading. Intellectual property protection serves as an incentive mechanism, motivating individuals and companies to invest resources and energy in R&D and innovation activities. This process leads to continuous technological advancement and improvement in industrial technological levels, thus ensuring the transition from traditional technology-intensive to knowledge-intensive development pathways. Simultaneously, intellectual property protection effectively safeguards businesses' technological achievements and trade secrets, ensuring their competitiveness in the market. This competitiveness enables businesses to move into the high-end segments of the value chain, accelerating the upgrading and optimization of the industrial structure. Often overlooked is the fact that technology innovators are willing to engage in technology cooperation and transfer in an environment where intellectual property is effectively protected, accelerating the dissemination and application of technology in the broader context. In such an environment, different businesses also create a positive atmosphere of collaborative innovation and resource sharing, moving the industrial structure towards cooperative and win-win situations. Furthermore, an effective intellectual property protection system attracts significant domestic and foreign investment and talent, promoting technological and capital flow across borders. Importantly, the introduction of external investment and talent provides crucial support for upgrading and adjusting the industrial technological structure, helping industries move towards international and specialized paths. Thus, intellectual property protection and industrial structure upgrading are closely linked. Intellectual property protection promotes industrial technological upgrades and structural adjustments through innovation incentives, enhancing business competitiveness, facilitating technology transfer and cooperation, and attracting external resources, pushing industries towards high-end, intelligent, green, and sustainable development directions.

#### **5. The Impact of Intellectual Property Protection on Different Industry Types**

##### ***5.1. Manufacturing***

The impact of intellectual property protection on different industry types varies according to industry characteristics and the types of intellectual property involved. Within this, the manufacturing industry, being technology-intensive, benefits significantly from intellectual property protection, which motivates companies to innovate technologically and invest in R&D. Companies are more motivated to invest resources in R&D when they possess intellectual property rights, developing high-quality, high-value-added products that enhance market competitiveness. Intellectual property protection facilitates the upgrading and optimization of the manufacturing industry's value chain. By protecting technological achievements and trade secrets, manufacturing businesses are more willing to engage in technology introduction and cooperation, thereby improving the technology level and added value of the entire value chain. Intellectual property protection aids manufacturing businesses in brand building and market expansion. By registering trademarks, copyrights, and other forms of protection for their brand and product image, companies enhance their market presence and reputation, expanding their market share. Intellectual property protection helps maintain market order by preventing infringement and unfair competition. In an environment where intellectual property rights are protected, companies are more motivated to compete legally, promoting healthy industry development. Effective intellectual property

protection enhances the international competitiveness of manufacturing businesses. In the international market, products with intellectual property rights are more popular and competitive, facilitating the expansion of overseas markets and the development of international business. Thus, the impact of intellectual property protection on the manufacturing industry primarily manifests in technological innovation, industry upgrading, brand building, market expansion, and enhancement of international competitiveness. Effective intellectual property protection contributes to the healthy development of the manufacturing industry, promoting its upgrade towards higher quality and efficiency.

### **5.2. Service Industry**

The impact of intellectual property protection on the service industry is also significant, especially in today's continuously evolving service-oriented economy. Intellectual property protection incentivizes service innovation and improves service quality. Service enterprises can obtain intellectual property protection by innovating service models and developing new products or services, enhancing their competitiveness and market share. Intellectual property protection helps drive the upgrading and structural optimization of the service industry. By protecting service innovations and service brands, it encourages service enterprises to increase technology R&D and service quality, pushing the industry towards high-end, differentiated development. Intellectual property protection aids service enterprises in brand building, enhancing brand value, and market competitiveness. Service enterprises can protect their brands and images through trademarks, copyrights, etc., establishing a good market reputation and brand image. Effective intellectual property protection facilitates service enterprises in engaging in cross-border service trade and international business. In the international market, products with intellectual property rights from service enterprises are more popular and competitive, favoring the expansion of overseas markets and the development of international business. Intellectual property protection supports the integrated development of the service and manufacturing industries. As the integration between the service and manufacturing industries deepens, the protection of intellectual property promotes technological exchange and cooperation between them, fostering industry innovation and upgrading. Thus, the impact of intellectual property protection on the service industry mainly manifests in promoting innovation, driving industry upgrading, brand building, service trade, and international development. Effective intellectual property protection enhances the competitiveness and innovation capability of the service industry, pushing it towards high quality, high value-added, high efficiency development.

### **5.3. High-Tech Industry**

The impact of intellectual property protection on the high-tech industry is particularly significant, as the development of high-tech industries relies more on technological innovation and the protection of intellectual property. High-tech industries, being at the forefront of technological innovation, have an urgent need for intellectual property protection. Effective intellectual property protection encourages enterprises to increase R&D investments, develop new technologies and products, and continuously advance the industry. It can attract domestic and foreign capital and talent to the high-tech industry. Investors and R&D personnel are more willing to participate in enterprises or projects with a good intellectual property protection system, thereby promoting the growth and development of the industry. Intellectual property protection facilitates technology transfer and cooperation. High-tech enterprises, while innovating, need to apply their technologies to a broader range of fields through technology transfer or cooperation, achieving commercialization and industrialization. High-tech enterprises build their brand image and enhance market recognition and competitiveness through intellectual property protection. Products with intellectual property protection are more trusted by consumers in the market, helping enterprises expand their market share. Effective intellectual property protection promotes the clustering and ecosystem development of high-tech industries. In a favorable intellectual property protection environment, enterprises are more willing to cluster together, forming industrial clusters that facilitate technological exchange and innovative cooperation, driving the development of the entire industry ecosystem. Therefore, the impact of intellectual property protection on the high-tech industry primarily lies in technological innovation, capital and talent attraction, technology transfer and cooperation, brand building and market expansion, and industrial clustering and ecosystem development. Effective intellectual property protection aids the sustained growth and strengthening of the high-tech industry, enhancing its competitiveness and influence.

### **5.4. Traditional Industries**

The impact of intellectual property protection on traditional industries is also significant, even though

these industries primarily rely on conventional production methods and products. Under an environment of intellectual property protection, traditional industries can also undergo technological upgrades and innovative transformation. Enterprises are encouraged by the protection of their technological achievements and the innovations of other companies, pushing the industry towards higher technology content and greater added value. Intellectual property protection enables traditional industry enterprises to enhance product quality and brand value. By protecting their brands and product images through trademarks, copyrights, etc., they can improve market competitiveness and product value. Effective intellectual property protection drives traditional industries towards industry upgrading and structural adjustment. Through technological innovation and intellectual property protection, traditional industry enterprises can better adapt to market demands, moving towards high-end, intelligent transformation. Against the backdrop of global competition, intellectual property protection enhances the international competitiveness of traditional industry enterprises. In the international market, products protected by intellectual property rights have a competitive edge, favoring the expansion of overseas markets and the development of international business. Intellectual property protection supports traditional industries in promoting technology transfer and cooperation. In an environment where intellectual property is protected, enterprises are more willing to engage in technology cooperation and transfer, accelerating the dissemination and application of technology, fostering collaborative industry development. Thus, the impact of intellectual property protection on traditional industries primarily involves technological upgrades, product quality enhancement, industry upgrading, international competitiveness, and technology transfer and cooperation. Effective intellectual property protection aids the transformation and upgrading of traditional industries, driving them towards intelligent, green, high value-added development.

## **6. How to Optimize Intellectual Property Protection Policies to Boost Industrial Structure Upgrading**

Optimizing intellectual property protection policies is one of the key measures to promote industrial structure upgrading. Governments need to continuously strengthen and perfect the laws and regulations on intellectual property protection. Relevant departments should formulate and refine intellectual property-related laws and regulations, enhance the protection of intellectual property rights fundamentally, providing legal and institutional guarantees for innovation activities. This approach can significantly encourage enterprises to increase their investment in technology R&D, improve the industrial technology level, and promote the upgrading of industrial structure towards high-end and intelligent directions. Governments can actively establish and perfect intellectual property protection systems, offer intellectual property registration services to enterprises and individuals, set up formal and legal certification and law enforcement agencies, and provide diverse and targeted intellectual property protection services. This support facilitates enterprises to undertake innovation activities, pushing the optimization and upgrading of the industrial structure. Meanwhile, it is essential for enterprises to strengthen the enforcement of intellectual property rights, crack down on intellectual property infringement, maintain market order, and ensure a fair competition environment. As more enterprises and individuals see the government's determination to fight infringement, they will feel more secure in enhancing their innovation consciousness and enthusiasm, driving the industry towards high quality, high value-added development, and effectively curbing the phenomenon of intellectual property theft. Additionally, to promote the application and transformation of intellectual property, governments can offer rewards, subsidies, and tax incentives for intellectual property protection to well-performing enterprises and individuals, encouraging them to innovate and apply intellectual property rights, turning scientific and technological achievements into productive forces, and promoting the optimization and upgrading of the industrial structure. Enterprises need to strengthen international cooperation and exchange in intellectual property protection. Governments can also enhance international cooperation, strengthen the exchange and cooperation in intellectual property protection with other countries and regions, jointly address transnational intellectual property infringement issues, maintain the international trade order and industrial development environment. By implementing these measures, optimizing intellectual property protection policies can significantly contribute to promoting industrial structure upgrading. Governments need to continuously strengthen legal and regulatory construction, establish a comprehensive protection system, enhance law enforcement, promote the application and transformation of intellectual property, and reinforce international cooperation in the future development process, creating a favorable innovation environment and market order for enterprise development, industrial structure transformation, and upgrading, and pushing the industrial structure towards technology-intensive, high-end, and intelligent development.

## 7. Conclusion

This paper has elaborately discussed the relationship between intellectual property protection and industrial structure upgrading, explored the impact of intellectual property protection on various industries, and proposed valuable paths for the future development of industrial structures and intellectual property protection. As seen in this paper, with the continuous progress of economic globalization and technological advancement, it is necessary to deepen our understanding of the intellectual property system and provide more references for government decision-making. Intellectual property protection can significantly encourage innovation activities, promote technological progress, and facilitate the upgrading of industrial structures. In the manufacturing industry, intellectual property protection can drive the industry towards high-end, technology-intensive development; in the service industry, it can continually maintain service innovation and enhance brand value; in the high-tech industry, it can attract more capital and talent; and in traditional industries, it can aid in technological upgrading and building strong brands. Intellectual property protection faces challenges and issues in upgrading industrial structures, necessitating further strengthening of legal and regulatory construction, improving the intellectual property protection system, enhancing the enforcement of intellectual property rights, and encouraging enterprises to innovate and transform technology.

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